Premature Reliance on the Psychopathy Checklist-Revised
in Violence Risk and Threat Assessment

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Abstract

Recent research has begun to carefully examine the premature reliance on the PCL-R for clinical and forensic evaluation of violence risk and threat assessment. This article reviews the lack of reliability and validity evidence to support application of PCL-R scores for assessing individual risk. Also discussed are the limitations of existing research to support use of the PCL-R with specific populations, its inability to adequately address the context of behavior, and the largely unaddressed problem of differential assessment. Finally, also discussed is the balance between the incremental benefit gained by using the PCL-R and the substantive harm that comes from falsely identifying people as high risk.

Keywords: reliability, validity, PCL-R, risk assessment

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In 1983, the United States Supreme Court took notice of the scientific research that had found determinations of future dangerousness based on clinical judgment were generally inaccurate, more often wrong than not (Barefoot v Estelle, 1983). The Court left it to researchers and clinicians, however, to address this problem, finding that the Constitution did not bar such future dangerousness opinions from capital sentencing despite their apparent lack of reliability and validity. Since that time, many researchers and clinicians have sought to create a new "science" for predicting violence that is based on instruments and algorithms. These new tools purport to avoid the failures of clinical determinations (Monahan et al., 2001; Monahan & Steadman, 1994).

The Hare Psychopathy Checklist - Revised (PCL-R) is the most prominent of the instruments that currently claim to successfully predict future behavior, although it was designed as a diagnostic tool to identify psychopaths. Its proponents have maintained that psychopaths, as identified by a high score on the PCL-R, are significantly more likely to be violent in the future. As a result, the PCL-R has been recommended widely for clinical and forensic use and has been incorporated into many other instruments (e.g., Violence Risk Appraisal Guide, Sexual Offender Risk Appraisal Guide, HCR-20) and spawned a variety of its own modifications (e.g., PCL-SV, PCL-YV, PSD, P-SCAN).

Following initial promotion of the PCL-R as the best available answer to the problem of risk assessment, recent critical examinations have begun raising questions as to whether PCL-R has been prematurely embraced and relied upon in clinical and forensic practice (Edens, Skeem,

Cruise, & Cauffman, 2001; Freedman, 2001; Rogers, 2000; Vitale & Newman, 2001). Despite the claims about it, and its apparent popularity, the question remains: Does the PCL-R perform with sufficient validity and reliability such that it should be playing a role in violence risk and threat assessment? One part of the answer to this question lies in an evaluation of the reliability and validity research and another part lies in the balancing of incremental benefit against substantive harm.

<div align="center">Applying the PCL-R to Individuals</div>

Threat or risk assessment is, obviously, the prediction of the likelihood that a particular individual will or will not be dangerous in the future. In examining the role of the PCL-R in risk assessment, it is necessary to focus first on whether the validation research supports applying PCL-R scores to individual determinations of potential threat. In sum, the use of low cutting scores, excessively high false positive rates, and weak correlation coefficients indicate that it is premature to rely upon the PCL-R to assess individuals in clinical or forensic settings.

The use of cutting scores (i.e., the threshold at which a person is said to be a psychopath) below 30 in the core validation research raises doubt as to the reliability and validity of the PCL-R, particularly when applied to an individual. The core predictive validity research has relied on a variety of cutting scores below the recommended threshold of 30, ranging from 19 (Harris, Rice, & Cormier, 1991; Harris, Rice, & Quinsey, 1994) to 29 (Hare & McPherson, 1984); others have used a mean score to divide high and low levels of psychopathy (Serin, 1991). Altering cutting scores changes the base rates of psychopathy, creating an enhanced risk of false positive assessments. This results from asymmetry in the distribution of the subjects: a greater availability of low-scorers who will be falsely scored "high" than high scorers who will be scored

"low" (Freedman, 2001).

The net effect of using lower cutting scores to validate the instrument is to trade specificity (i.e., the probability of testing low if in fact the person does not pose a future risk) for sensitivity (i.e., the probability of correctly identifying people who will pose a threat in the future). This trade-off results in an overinclusion of people into the high score group who pose no future threat. The importance of this is that when applied to the individual (i.e, when the instrument is used for purposes other than research), the reliability decreases beyond that reported by the validation research. Thus, as a direct result of the lowered cutting scores in the validation research, an individual assessed with the PCL-R is placed at excessively high risk of being falsely identified as a future danger by the overinclusion of people into the high score group, raising sensitivity at the cost of penalizing significant numbers of people who pose no future threat.

Furthermore, the false positive rate found in the PCL-R research concerned with future violence is strikingly high. The rate of false positives produced by a behavioral prediction instrument is defined by the number of individuals predicted by the instrument to do something (e.g., act aggressively) who do not in fact exhibit that behavior. Regardless of the cutting scores, false positives are those people who score above the threshold (and are termed psychopaths), yet who do not commit a violent act (or otherwise fail). Here again, the prevalence of the condition (i.e., its base rate in the study population) is critical to the statistical measure. No matter how specific the test, when the population is at low risk for the condition, positive results will mostly be false positives (Hennekens & Buring, 1987).

The PCL-R research is overwhelmingly consistent, demonstrating false positive rates

between 50% and 75% (e.g., Skeem & Mulvey, in press: 50% false positive rate; Hemphill, Hare,

& Newman, as cited in Hare, Clark, Grann, & Thorton, 2000: 67% false positive rate;

Tengstrom, Grann, Langstrom, & Kullgren, 2000: 52% false positive rate; Edens, Poythress, &

Lilienfeld, 1999: 50% false positive rate; Serin, 1996: 75% false positive rate; Hemphill, 1992, as

cited in Hemphill, Hare, & Wong, 1998: 63% false positive rate; Serin, Peters, & Barbaree, 1990:

67% false positive rate).

The very high rate of error must raise substantial doubt as to whether the PCL-R is a

reliable and valid measure on which to base opinions. It clearly has failed to accurately predict

violence in the validation research conducted to date. Rather than offering a statistically driven,

reliable means of predicting future behavior, the extraordinary rates of misclassification mean

that the PCL-R has about the same reliability as a coin toss for those it predicts will be violent.

Researchers, of course, see potential in the PCL-R in its ability to draw group

distinctions--differentiating between psychopaths and nonpsychopaths. In effect, however, we

are cautioned that: "A high PCL-R score is consistent with high risk, but a low score does not by

itself imply low risk" (Hare, 1998a, p. 115). For the PCL-R to be considered a reliable and valid

predictor of future behavior such that it can be used to make risk assessments about individuals,

within-group predictive ability worse than chance has to be considered too low to pass any

reasonable scientific threshold. Even predictive ability substantially better than chance, for

instance a test that predicts eight out of ten correctly, will seriously prejudice those who are

incorrectly identified.

When applying the PCL-R research outside the study group, where the prevalence is

lower than within the study group (either because of the cutting score variation or because of bias

in the selection of the study group), the rate of false positives will increase, making the instrument even less valid than it appears in the core research. The risk of this over allocation of people to the high scoring group is enormous, and the harm that comes from such a false designation considerable.

Moreover, the published research demonstrates surprisingly weak correlations, with many studies reporting that PCL-R scores failed to correlate with violent behavior (Reiss, Meux, & Grubin, 2000; Edens et al., 1999; Serin,1996; Harpur & Hare, 1994; Hemphill, 1992, as cited in Hemphill, Hare, & Wong, 1998; Hare, McPherson, & Forth, 1988). This means that it is premature to state that a PCL-R score is significantly related to the behaviors of interest in risk assessment.

Even when the PCL-R is found to be related to violence, the relationship is a weak one. A review of research (Hemphill, Hare, & Wong, 1998), in which recidivism was calculated using the PCL-R, found that across all of these studies the PCL-R had a correlation coefficient of .27 with prediction of violent recidivism (it is widely repeated that Factor 2 correlates with recidivism at 0.3 and Factor 1 at 0.2). This means that the PCL-R is explaining 7% of the behaviors that it seeks to predict. The other 93% is unexplained or explained by something else entirely. In fact, this meta-analysis reported a range of correlation coefficients for violent recidivism from 0.06 to 0.34, meaning the PCL-R explained somewhere between less than one half of one percent and twelve percent of violent behavior, depending on the study. In the context of risk assessment, such low correlations suggest a serious problem in relying on the PCL-R score for individual assessments.

<div align="center">Context and Confounding Variables</div>

Two possible explanations for the low correlation between PCL-R scores and violent behavior may be: 1) violence occurs in context; and 2) the assessment by the PCL-R is confounded by factors that have not been adequately studied. Both the context of the assessment (i.e., who is referred for assessment) and the context of the threat (i.e., prison, hospital, school or workplace) are important. Most violence risk assessment to date has focused on decision-making concerning the release or continued detention of the mentally ill. Increasingly, risk assessment has extended to concerns about school violence, workplace violence and determinations of life versus death sentences. This broadening of the scope places additional weight on the assessor to protect the rights and interests of the individuals being assessed.

Context of the Assessment

Any instrument that is used for risk assessment must have demonstrated reliability and validity across the spectrum of those to whom it might be administered. There is currently insufficient evidence that the PCL-R can be reliably and validly applied to poor people, people of color, women, or adolescents and those over 40 years or age.

Negligible attention has been given to the potential influence of poverty on PCL-R scores. Some research has suggested economic status confounds scores (Skeem & Mulvey, in press). To date, however, insufficient research has been conducted to permit careful analysis of the role of economic status on PCL-R scores. As a result, use of the PCL-R for risk assessment of poor people would be premature.

Somewhat more research has addressed the influence of race on PCL-R scores, although data are still quite sparse. The available research suggests important differences between the performance of African Americans and whites (Salekin, Rogers, & Sewell, 1996; Kosson, Smith,

& Newman, 1990). Insufficient evidence has been presented at this time to overcome the apparent race-based discrepancies in scoring. No validation research has been conducted comparing the performance of other persons of color with whites on the PCL-R. Without additional research, it is premature to use the PCL-R for risk assessments of people of color.

Furthermore, certain items on the PCL-R appear to be subject to race bias. Hare (1991) has noted more generally that differences in performance between African-Americans and whites may result from race differences between raters and subjects, sampling error or bias in items. Additionally, some items that comprise the PCL-R may unduly penalize people of color for biases in the criminal justice system rather than being accurate reflections of personality or prior behaviors. For instance, Item 6 (i.e., lack of remorse or guilt) is described, in part, as an expression that the criminal justice system is unfair; Item 16 (i.e., failure to accept responsibility for own actions) is described as denying accusations despite overwhelming evidence or claims of being framed; Item 18 (i.e., juvenile delinquency) which counts "only formal contacts with the criminal justice system," fails to account for law enforcement behaviors such as racial profiling; Item 20 (i.e., criminal versatility) relies on criminal charges rather than convictions, thereby scoring people higher without evidence of actual culpability (Hare, 1991). Each of these items reflects contact with, or the subject's views of, criminal justice agencies that have historically been influenced by race-based decision-making. People of color are more likely to be penalized (i.e., score higher) as a result of race bias in the criminal justice system, and the PCL-R fails to account for this likelihood (Males & Macallair, 2000; Mauer, 1999; New York Times, 2001; United States Department of Justice, 2000).

Similarly, research on women assessed with the PCL-R has been equivocal at best. The

PCL-R has not been found to be a reliable and valid predictive instrument for use with women (Salekin, Rogers, Ustad, & Sewell, 1998; Salekin, Rogers, & Sewell, 1997). A recent review of the literature concludes that: "If clinicians were using the PCL-R for the sole purpose of predicting specific outcomes for any particular woman in these areas, they would be doing so without empirical evidence of the predictive power of the PCL-R in such domains. That evidence has not been collected yet. Thus, we caution against the premature use of the instrument to make important decisions based upon PCL-R ratings...." (Vitale & Newman, 2001, p. 128).

The assessment of age also poses substantive problems. Most importantly, there is insufficient research on the persistence of psychopathy and the strength of the association between psychopathy and violence across the life-course. Research has indicated a drop-off in violent behavior after age 35 to 40 years of age (Hare, McPherson, & Forth, 1988; Heilbrun et al., 1998). Without evidence that psychopathy persists, risk assessment predicated on static measures like the PCL-R cannot be considered reliable. For adolescents, research concerning the stability of psychopathy is lacking. To date, there is no published longitudinal research on this issue, and existing research does not support use of the PCL-R or its progeny (Edens et al., 2001).

The question of who is referred for risk assessment is therefore a concern. Only 5.1% of 1709 consecutive criminal defendants referred for evaluation at a federal medical center were assessed for potential dangerousness (Frederick, Cochrane, & Mockenhaupt, 2000). This selection process raises the spectre of bias that has not been adequately addressed in the application of assessment instruments. In other words, we will never assess everyone for his or her potential future dangerousness, for reasons of cost or policy, yet we continue to select certain

people for assessment. Bias in referral is a genuine concern.

Context of the Behavior

Second, violence arises from a complex set of behaviors of individuals acting in social context. Static risk assessment measures like the PCL-R fail to capture any notion of context. As Hart (1998) has pointed out, an individual who scores high on the PCL-R one day could be in a coma the next; yet nothing in the PCL-R score, and the concurrent assessment of risk based on that score, would change despite physical incapacitation. Although this issue is often discounted by proponents of actuarial instruments, the issue of "incapacitation" may be the key question when determining level of security housing or discharge from custody for psychiatric patients and inmates alike. Like many risk assessment instruments, the PCL-R places the locus of all behavior solely at the level of the individual, ignoring an astonishing array of well-recognized risk factors that must be assessed at the level of the family, community, and social institutions surrounding the individual's behavior. Generations of research would suggest the PCL-R's approach to be exceedingly narrow and erroneous (Cf. Duncan, Frazier, Litin, Johnson, & Barron, 1958; Glueck & Glueck 1950; Healy & Bronner, 1936; McCord, McCord, & Zola 1959; Sampson, Raudenbush, & Earls 1997; Wolfgang, Savitz, & Johnston, 1962).

Furthermore, considerable evidence points to the problem of confounding in the research on the PCL-R as a predictor of future behavior. Confounding occurs when an instrument intended and believed to be measuring one thing is in fact measuring something else. For example, the hypothesis that children cause grey hair, because most people who have had children get grey hair, might find statistical support until the confounding variable of aging is added to the equation. The PCL-R appears to be confounded by substance abuse (Tengstrom et

al., 2000), schizophrenia and psychotic disorders (Howard, Bailey, & Newman, 1984; Kosson, Smith, & Newman, 1990; Nedopil, Hollweg, Hartmann, & Jaser, 1998; Valliant, Gristey, Pottier, & Kosmyna, 1999), affective disorders (Howard, 1990), depression (Lovelace & Gannon, 1999), physical and sexual child abuse (Hare, Cooke, & Hart, 1999; Quinsey, Harris, Rice, & Cormier, 1998; Weiler & Widom, 1996), impaired intellectual functioning (Skeem & Mulvey, in press; Vitale & Newman, 2001), and may also be confounded by head injury and other developmental disabilities. The PCL-R appears to be measuring manifestations of mental disease and disorder, raising the possibility of subjects with these conditions being falsely allocated to the high scorer group when in fact they should not be. Hare, Cooke, & Hart (1999) recognized recently "our knowledge of the comorbidity of psychopathy with other psychiatric disorders is limited and confused" (p. 560).

Although designed as a diagnostic tool, the PCL-R is unable, structurally or conceptually, to differentiate between psychopathy and the conditions that confound its identification. Ironically, Cleckley (1988), from whom the PCL-R claims its theoretical basis, argued very strongly for differential diagnosis, going so far as to assert that individuals with certain conditions, mental deficiency or organic brain damage, schizophrenia, psychosis, cyclothymia or paranoia, manic-depression, anxiety disorder, or criminality precluded a finding of psychopathy. Yet, Cleckley's assertion that these conditions could not be co-morbid with psychopathy has been quietly forgotten by those who claim his tradition as the theoretical framework in which to assess psychopathy.

The question seems an important one. First, mental illnesses, unlike psychopathy, can be treated. Some have even claimed that psychopathy is a condition worsened by treatment (Hare,

Clark, Grann, & Thornton, 2000; Quinsey, Harris, Rice, & Cormier, 1998; Sherman, 2000).

Treatment does not worsen schizophrenia or affective disorders or substance abuse or any of the

other conditions that confound the scoring on the PCL-R. While treatment is no guarantee of

success, no more important difference could exist between psychopathy and the mental illnesses

that confound its identification. Interestingly, a recent study found that psychiatric inpatients

whose PCL-R scores during the first two months of hospitalization correlated weakly to physical

aggression (correlation of 0.14), failed to correlate during the last two months of hospitalization

(Heilbrun et al., 1998). This suggests that treatment (perhaps related to the mental illness which

led to hospitalization) or environment may be important mediating factors that have not yet been

adequately examined to date in the research.

Second, because policy and resource questions in the risk assessment arena are being

made based on diagnosis, differential diagnosis is important because we may be diverting

resources to "containment" and away from prevention. In a study which purported to assess

whether child abuse was a risk factor for psychopathy, researchers concluded that it was a risk

factor based on PCL-R mean score differences between 6.8 for the non-abused group and 9.2 for

the abused group (Weiler & Widom, 1996). Such research shifts the policy discussion from child

abuse prevention to "containment" of the victims of abuse.

Third, differential diagnosis is important on the scientific question of etiology, but also on

the question of on-set, immutability, life-course, treatment, intervention, and performance in

structured environments. These questions also have not yet been adequately studied. Finally, as

a nation we profess compassion for the mentally ill and struggle with understanding behaviors

that derive from illness. We do not extend that same compassion to those we label evil,

manipulative, conniving and deceitful. The importance of differential diagnosis does not make it

an easy question to answer, and the lack of research on these issues again suggests that it is

premature to rely on the PCL-R in clinical and forensic practice.

<center>Incremental Benefit vs. Substantive Harm</center>

The best argument for using the PCL-R in risk assessment is that it provides an

incremental benefit over not using it at all or using other instruments. In the context of research,

this is a reasonable answer to the problems posed by its use. In the clinical or forensic context,

this is not a sufficient answer because substantial harm attaches to the individual designated as a

psychopath (Serin & Brown, 2000). The PCL-R is not simply an incremental advance because it

carries with it, by virtue of its design and purpose, enormous consequences for those to whom it

is administered.

The concept of psychopathy, as measured by the PCL-R, has led to declarations that those

who score high are less than or other than human (e.g., "intraspecies predators," Hare, 1999, p.

196; "emotionless androids," Hare, 1993, p. 44; "remorseless predators," Hare, 1998b, p. 128).

The dehumanization which results from a designation as a psychopath is unsubtle. In a recent

federal court case, a psychologist testifying as an expert in a death penalty sentencing trial

offered this description of psychopathy:

> "The psychopath, as I say, has the ability to look very normal. However, if you know
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> what you are looking for, it is kind of like seeing a [bowl] of fruit, and you say to
>
> yourself, gosh that bowl of fruit looks wonderful, it looks very good. But when you get
>
> close to the [bowl] of fruit and pick it up you realize that it's fake fruit. And the
>
> psychopath is a lot that way." United States v. Barnette (2000, p. 823).

That is, while the psychopath may look human to the untrained eye, to the expert it is clear that the psychopath is something less than--or other than--human. In reversing Mr. Barnette's death sentence, the Fourth Circuit Court of Appeals described this testimony to be "as damning as it could be," and went on to say that while such expert opinions may be subjected to cross examination, attorneys' questions do not carry equal weight in a juror's mind in comparison to an expert's opinion (United States v. Barnette, 2000, p. 825).

The weight of that expert opinion clearly places the burden for the consequences of the assessment on those who conduct them. People engaged in risk assessment must take responsibility not just for the accuracy of the predictions, but for the resulting impact on those who are assessed. As the U.S. Supreme Court made clear in Barefoot (1983), the duty for ensuring reliability and validity resides foremost with those who engage in risk assessment. Thus, regardless of profitability or convenience, the ethical duty must be applied as strongly to the application as to the consequences of the science. The simple fact of being able to do something cannot lead to the conclusion that the thing should be done or that it can be done reliably and validly.

The consequences are quite extraordinary for those who are falsely identified as a future danger. In the context of risk assessments which may be conducted in all types of settings from schools, to workplaces, to medical facilities as well as prisons, the harm that results to the individual falsely identified as a high scorer on the PCL-R is simply so severe as to counterbalance whatever incremental benefit might come from its use. Given the dearth of research support for applying the PCL-R across contexts and to various types of people, the enormous risk in mis-allocating people to the high-scorer category must caution against its use in

clinical and forensic settings at this time.

The PCL-R is being promoted for use to lend scientific credibility to the determinations about an individual's future behavior. However, the application of this instrument will result in unreliable and invalid determinations that children should be expelled from school, people should be denied employment or fired, inmates and psychiatric patients should be kept in custody or deprived of liberty and life. The PCL-R reinforces the existing failures of the system rather than mitigating those failures, and it poses a substantial and devastating risk that an innocent person, a person falsely identified as a future danger, will be substantially harmed. The rate at which people are falsely identified as posing a future danger is significantly worse than chance and the strength of the correlation between PCL-R score and behavior significantly weak. The PCL-R should not be used to predict future dangerousness in clinical or forensic settings at this time.

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